## **CLAIMS**

## 1. A dyestuff of formula (I)

$$Z_{2}$$
 $Z_{3}$ 
 $N=N$ 
 $N=N$ 

wherein

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R<sub>1</sub> is H; C<sub>1-4</sub>alkyl; substituted C<sub>1-4</sub>alkyl; phenyl or substituted phenyl,

 $R_2$  is H;  $C_{1-4}$ alkyl; substituted  $C_{1-4}$ alkyl;  $C_{1-4}$ alkoxy; -COOH; -COOCH<sub>3</sub>; -CF<sub>3</sub>;

 $-SO_3H$ , -CN or  $SO_2NHR_6$ ,

where R<sub>6</sub> is H, C<sub>1-4</sub> Alkyl, phenyl or substituted phenyl

and

 $X_1$  is  $NR_3R_4$ ;  $SR_5$ ; OH;

 $X_2$  is  $NR_3R_4$ ;  $SR_5$ ; OH;

15 wherein

R<sub>3</sub> is H, C<sub>1-4</sub>alkyl; substituted C<sub>1-4</sub>alkyl; substituted phenyl, naphthyl or substituted naphthyl

R<sub>4</sub> is H; C<sub>1-4</sub>alkyl; substituted C<sub>1-4</sub>alkyl; substituted phenyl, naphthyl or substituted naphthyl

or R<sub>3</sub> and R<sub>4</sub> form 5- or 6-membered ring containing one or two hetero atoms, in addition to N, O or S,which heterocyclic ring is unsubstituted or substituted by one or two C<sub>1-4</sub>alkyl groups

 $R_5$  is  $C_{1-4}$ alkyl; substituted  $C_{1-4}$ alkyl; phenyl or substituted phenyl and  $X_1$  has not the meaning of  $X_2$  unless  $X_1$  or  $X_2$  signifies  $SR_5$  or OH;

25 and

is H; C<sub>1-4</sub>alkyl; substituted C<sub>1-4</sub>alkyl; C<sub>1-4</sub>alkoxy; -OH; -COOH; -COOCH<sub>3</sub>; -CF<sub>3</sub>; -SO<sub>3</sub>H; amino; alkylamino, -CN or SO<sub>2</sub>NHR'<sub>6</sub>,
 where R'<sub>6</sub> is H, C<sub>1-4</sub> alkyl, phenyl or substituted phenyl

 $Z_2$  is H;  $C_{1-4}$ alkyl; substituted  $C_{1-4}$ alkyl;  $C_{1-4}$ alkoxy; OH; COOH; -SO<sub>3</sub>H

WO 2005/073323 PCT/IB2004/004292

 $Z_3$  is H,  $C_{1-4}$ alkyl; substituted  $C_{1-4}$ alkyl;  $C_{1-4}$ alkoxy; OH; COOH; -SO<sub>3</sub>H as free acid or in salt form, as well as mixtures thereof.

2. A dyestuff according to claim 1 characterized in that

 $R_1$  is H;  $C_{1-4}$ alkyl; substituted  $C_{1-4}$ alkyl,

 $R_2$  is H;  $C_{1-4}$ alkyl; substituted  $C_{1-4}$ alkyl;  $C_{1-4}$ alkoxy; -COOH or -SO<sub>3</sub>H

and

5  $X_1$  is  $NR_3R_4$ ;  $SR_5$ ; OH;

 $X_2$  is  $NR_3R_4$ ;  $SR_5$ ; OH;

wherein

R<sub>3</sub> is H, C<sub>1-4</sub>alkyl; substituted C<sub>1-4</sub>alkyl; phenyl or substituted phenyl, naphthyl or substituted naphthyl

10  $R_4$  is H;  $C_{1\_4}$ alkyl; substituted  $C_{1\_4}$ alkyl; phenyl or substituted phenyl, naphthyl or substituted naphthyl or

R<sub>3</sub> and R<sub>4</sub> form a 5- or 6-membered ring containing one or two hetero atoms, in addition to N, O or S, which heterocyclic ring is unsubstituted or substituted by one or two C<sub>1-4</sub>alkyl groups

15  $R_5$  is  $C_{1-4}$ alkyl; substituted  $C_{1-4}$ alkyl; phenyl or substituted phenyl and  $X_1$  has not the meaning of  $X_2$  unless  $X_1$  or  $X_2$  signifies  $SR_5$  or OH; and

Z<sub>1</sub> is H; C<sub>1-4</sub>alkyl; substituted C<sub>1-4</sub>alkyl; C<sub>1-4</sub>alkoxy; -OH; -COOH; -COOCH<sub>3</sub>; -CF<sub>3</sub>; -SO<sub>3</sub>H; amino; alkylamino, -CN or SO<sub>2</sub>NHR'<sub>6</sub>,

where  $R'_6$  is H,  $C_{1-4}$  alkyl, phenyl or substituted phenyl

Z<sub>2</sub> is H; C<sub>1-4</sub>alkyl; substituted C<sub>1-4</sub>alkyl; C<sub>1-4</sub>alkoxy; OH; COOH; -SO<sub>3</sub>H

 $Z_3$  is H,  $C_{1-4}$ alkyl; substituted  $C_{1-4}$ alkyl;  $C_{1-4}$ alkoxy; OH; COOH; -SO<sub>3</sub>H as free acid or in salt form, as well as mixtures thereof

25 3. A dyestuff according to claim 2 characterized by the formula (Ia)

$$Z_2$$
 $Z_3$ 
 $N=N$ 
 $N=N$ 

wherein

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 $R_1$  is H;  $C_{1-4}$ alkyl; substituted  $C_{1-4}$ alkyl,

R<sub>2</sub> is H; C<sub>1-4</sub>alkyl; substituted C<sub>1-4</sub>alkyl; C<sub>1-4</sub>alkoxy; -COOH or -SO<sub>3</sub>H

and

 $X_1$  is  $NR_3R_4$ ;  $SR_5$ ; OH;

 $X_2$  is  $NR_3R_4$ ;  $SR_5$ ; OH;

wherein

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is H, C<sub>1-4</sub>alkyl; substituted C<sub>1-4</sub>alkyl; phenyl or substituted phenyl, naphthyl or substituted naphthyl

R<sub>4</sub> is H; C<sub>1-4</sub>alkyl; substituted C<sub>1-4</sub>alkyl; phenyl or substituted phenyl, naphthyl or substituted naphthyl or

R<sub>3</sub> and R<sub>4</sub> form a 5- or 6-membered ring containing one or two hetero atoms, in addition to N, O or S, which heterocyclic ring is unsubstituted or substituted by one or two C<sub>1-4</sub>alkyl groups

 $R_5$  is  $C_{1-4}$ alkyl; substituted  $C_{1-4}$ alkyl; phenyl or substituted phenyl and  $X_1$  has not the meaning of  $X_2$  unless  $X_1$  or  $X_2$  signifies  $SR_5$  or OH; and

is H; C<sub>1-4</sub>alkyl; substituted C<sub>1-4</sub>alkyl; C<sub>1-4</sub>alkoxy; -OH; -COOH; -COOCH<sub>3</sub>; -CF<sub>3</sub>; -SO<sub>3</sub>H; amino; alkylamino, -CN or SO<sub>2</sub>NHR'<sub>6</sub>, where R'<sub>6</sub> is H, C<sub>1-4</sub> alkyl, phenyl or substituted phenyl

 $Z_2$  is H;  $C_{1-4}$ alkyl; substituted  $C_{1-4}$ alkyl;  $C_{1-4}$ alkoxy; OH; COOH; -SO<sub>3</sub>H

 $Z_3$  is H,  $C_{1-4}$ alkyl; substituted  $C_{1-4}$ alkyl;  $C_{1-4}$ alkoxy; OH; COOH; -SO<sub>3</sub>H

as free acid or in salt form, as well as mixtures thereof

4. A dyestuff according to claim 2 characterized by the formula (Ib)

$$Z_{2} \xrightarrow{Z_{1}} OH HN \xrightarrow{H} N \xrightarrow{X_{1}} X_{1}$$

$$HO_{3}S \xrightarrow{SO_{3}H} X_{2}$$

$$(Ib)$$

wherein

25  $R_1$  is H;  $C_{1-4}$ alkyl; substituted  $C_{1-4}$ alkyl,

 $R_2 \qquad \text{is H; $C_{1-4}$alkyl; substituted $C_{1-4}$alkyl; $C_{1-4}$alkoxy; -COOH or $-SO_3H$}$ 

and

 $X_1$  is  $NR_3R_4$ ;  $SR_5$ ; OH;

 $X_2$  is  $NR_3R_4$ ;  $SR_5$ ; OH;

30 wherein

- $R_3$ is H, C<sub>1-4</sub>alkyl; substituted C<sub>1-4</sub>alkyl; phenyl or substituted phenyl, naphthyl or substituted naphthyl
- $R_4$ is H; C<sub>1-4</sub>alkyl; substituted C<sub>1-4</sub>alkyl; phenyl or substituted phenyl, naphthyl or substituted naphthyl or
- form a 5- or 6-membered ring containing one or two hetero atoms, in R<sub>3</sub> and R<sub>4</sub> 5 addition to N, O or S, which heterocyclic ring is unsubstituted or substituted by one or two C<sub>1-4</sub>alkyl groups
  - is C<sub>1-4</sub>alkyl; substituted C<sub>1-4</sub>alkyl; phenyl or substituted phenyl  $R_5$ and  $X_1$  has not the meaning of  $X_2$  unless  $X_1$  or  $X_2$  signifies  $SR_5$  or OH;
- 10 and
  - $Z_1$ is H; C<sub>1-4</sub>alkyl; substituted C<sub>1-4</sub>alkyl; C<sub>1-4</sub>alkoxy; -OH; -COOH; -COOCH<sub>3</sub>; -CF<sub>3</sub>; -SO<sub>3</sub>H; amino; alkylamino, -CN or SO<sub>2</sub>NHR'<sub>6</sub>, where R'<sub>6</sub> is H, C<sub>1-4</sub> alkyl, phenyl or substituted phenyl
  - $Z_2$ is H; C<sub>1-4</sub>alkyl; substituted C<sub>1-4</sub>alkyl; C<sub>1-4</sub>alkoxy; OH; COOH; -SO<sub>3</sub>H
- $Z_3$ 15 is H, C<sub>1-4</sub>alkyl; substituted C<sub>1-4</sub>alkyl; C<sub>1-4</sub>alkoxy; OH; COOH; -SO<sub>3</sub>H as free acid or in salt form, as well as mixtures thereof
- 5. A process for the preparation of a compound according to the formula (I) characterized in that in a first step a compound of formula (II) 20

wherein all substituents have the meanings as defined above is reacted with a compound of formula (III)

$$\begin{array}{c|c} CI & & CI \\ & N & N \\ & & CI \end{array}$$

25 leading to compounds according to formula (IV)

$$\begin{array}{c|c} & & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & &$$

and in a second step the product of formula (IV) is reacted with one part of a compound of formula  $HX_1$  wherein  $X_1$  has the formula as described above which leads to compound of formula (V)

$$\begin{array}{c|c}
OH & HN \\
\hline
OH & HN \\
\hline
R_2 & CI
\end{array}$$

$$\begin{array}{c}
V) \\
SO_3H
\end{array}$$

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and in a third step the compound of formula (V) is condensated with a compound of formula  $HX_2$  wherein  $X_2$  has the formula as described above leading to compound of formula (VI)

$$\begin{array}{c|c}
OH & HN \\
\hline
OH & HN \\
R_2 & X_2
\end{array} (VI)$$

$$HO_3S$$

$$SO_3H$$

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wherein substituents  $R_1$  and  $R_2$  have the same meanings as defined above and in a final step a compound of formula (VI) is coupled with the diazoniumsalt of a compound of formula (VII)

$$Z_1$$
 $Z_2$ 
 $Z_3$ 
 $NH_2$ 
(VII)

leading to the dyestuff of formula (I)

$$Z_{2}$$
 $Z_{2}$ 
 $Z_{3}$ 
 $Z_{2}$ 
 $Z_{3}$ 
 $Z_{2}$ 
 $Z_{3}$ 
 $Z_{3}$ 
 $Z_{4}$ 
 $Z_{5}$ 
 $Z_{3}$ 
 $Z_{5}$ 
 $Z_{3}$ 
 $Z_{5}$ 
 $Z_{5}$ 
 $Z_{3}$ 
 $Z_{5}$ 
 $Z_{5$ 

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wherein all substituents have the same meanings as defined above.

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- 6. An Ink Jet Ink comprising at least one compound according to claim 1 or 2 or 3 or 4.
- 7. An Ink Jet Ink according to Claims 6 characterized in that the total content of salts is less than 0.5% by weight, based on the total weight of the dyes.
  - 8. Use of compounds according to claim 1 or 2 or 3 or 4 for printing recording material and/or in an inkjet printing process for printing recording materials and/or dyeing substrates comprising cellulose.
- 9. Use according to claim 8 characterized in that the recording material is paper or a papery substrate.
- 10. A recording material or a papery substrate or substrates comprising cellulose printed or dyed with a compound according to claim 1 or 2 or 3 or 4.